Contributions of Academia to Public Health Preparedness Research

The 2006 Pandemic and All-Hazards Preparedness Act (PAHPA) resulted in the development of several major program areas designed to respond to its legislation, “to improve the nation’s public health and medical preparedness and response capabilities for emergencies, whether deliberate, accidental, or natural.” In 2008, the Centers for Disease Control and Prevention (CDC) Office of Public Health Preparedness and Response (OPHPR) created seven Preparedness and Emergency Response Research Centers (PERRCs) in an effort to support the goals of PAHPA. The program expanded to nine centers in 2009. PERRCs, located at Council on Education for Public Health (CEPH)-accredited schools of public health, were tasked to improve “public health practice for preparedness and emergency response planning and policies at the local, state, federal, and tribal level.” CEPH is an independent agency certified by the U.S. Department of Education that accredits schools and programs of public health to assure compliance with well-defined standards.

CDC established a cooperative agreement in 2008 with the Association of Schools of Public Health (ASPH), now known as the Association of Schools and Programs of Public Health (ASPPH), to provide programmatic support to the PERRCs (“Year Four: ASPH Continuation Application,” application by CDC, June 2008). As the voice of accredited public health education, ASPPH works to transform public health by strengthening and promoting the education, research, service, and practice activities of CEPH-accredited schools and programs of public health and by advocating for the investments in science that will advance population health. A commitment to advocating for evidence-based public health policies and programs lies at the core of the ASPPH mission (Unpublished document, ASPPH Strategic Framework, ASPPH, 2013).

PERRCs conduct research that can be used to enhance public health preparedness (PHP) policies, planning, and response. Most health departments lack the resources to test new theories or concepts, but the federal funding allocated for these centers allows researchers to be more innovative in their work. The PERRCs have formed numerous collaborations with community
partners and performed extensive outreach, including to disciplines not traditionally engaged in public health activities, such as engineering, law, and public policy. Involving stakeholders is a crucial component of translational research. As a result, those working with communities can feel confident that their activities and trainings are rooted in evidence.

CONTRIBUTIONS TO PHP RESEARCH PRIORITIES

ASPH members helped to set the research priorities for the PERRC program as it was being established. After PAHPA was signed into law, Dr. Richard Besser, then-director of the CDC Coordinating Office for Terrorism and Emergency Preparedness and Response, asked the Institute of Medicine (IOM) to delineate the “research priorities for emergency preparedness and response in public health systems that are relevant to the specific expertise resident at schools of public health.” To undertake that task, IOM sought input from an expert committee that included distinguished faculty from ASPH-member schools of public health, as well as from stakeholders at an open forum. In January 2008, the IOM outlined four priorities in a letter report entitled “Research Priorities in Emergency Preparedness and Response for Public Health Systems.” These priorities were used by the Coordinating Office for Terrorism and Emergency Preparedness and Response to develop its announcement for what became the PERRC program.

Subsequently, CDC engaged the PERRCs in the development of the inaugural National Health Security Preparedness Index. Developed by the Association of State and Territorial Health Officials in collaboration with CDC and with input from 25 organizations and 75 individuals, the Preparedness Index is designed to “provide an accurate portrayal of our nation’s health security using relevant, actionable information to help guide efforts to achieve a higher level of health security preparedness.” With its release in December 2013, practitioners, policy makers, and researchers now have an instrument to use for “strengthening preparedness, informing decision making, guiding quality improvement, and advancing the science behind community resilience.”

To support the development of the Preparedness Index, PERRC researchers developed an annotated bibliography of articles suggesting potential measures, or proxy measures, to be considered as part of its structure. Additionally, they developed a white paper outlining criteria to use when measuring preparedness and made recommendations about both the Preparedness Index and the national preparedness research agenda. Faculty and staff at CEPH-accredited schools of public health are also involved with the Preparedness and Emergency Response Learning Centers (PERLCs), another major CDC-funded initiative. The PERLCs address the PH workforce needs by providing competency-based trainings. Five of the PERRCs are co-located with PERLCs. This proximity allows for resource sharing and helps link evidence-based research results to the design of public health workforce training. Regardless of whether or not they are co-located, all of the centers adhere to the principle of using research and evaluation to support the development of trainings.

PUTTING RESEARCH INTO PRACTICE

As set by the PAHPA legislation, and defined by the IOM’s recommendations, PERRCs contribute to national strategies to develop a strong public health infrastructure. Whether there is translation through adoption at the local level by a community partner or health department to strengthen its preparedness capabilities, or translation by adoption at the national level to structure future priorities and policies (Personal communication, Margaret Potter, JD, MS, University of Pittsburgh Graduate School of Public Health, January 2014), the research findings that emerge from the centers point the way toward a society that is better prepared for emergencies.

There are many examples of research being translated into policies or practice activities. One illustration comes from the Emory University Rollins School of Public Health PERRC. In collaboration with the National Commission on Correctional Health Care, investigators from the Emory PERRC surveyed the availability of H1N1 influenza vaccine in the U.S. prison and jail systems during the 2009–2010 pandemic. Of those that responded to the survey, 55% of jails did not receive vaccination. Not vaccinating the jail population poses a serious threat that extends beyond prisoners to correctional officers and the public at large. By adopting policies that ensure jails receive vaccinations, the health of the community can be better protected from the next pandemic. Another illustration comes from the University of Minnesota School of Public Health Simulations, Exercises & Effective Education (U-SEE) PERRC. U-SEE researchers made use of a collaborative virtual environment to create an application for local health departments (LHDs) to use in their planning process for mass dispensing and other public health emergencies. By using a virtual, 3D environment, public health officials are able to manipulate plans and examine...
potential challenges to running a point-of-dispensing site in real life, thereby making it easier for them to do their job.

A third example comes from the Johns Hopkins Bloomberg School of Public Health PERRC. Researchers worked in collaboration with faith-based communities, LHDs, and academic health centers in a two-phased effort to build the capacity and capability of community leaders to respond to the mental health and spiritual demands of their population during an emergency. As a result, local communities will be better equipped to respond to both the medical and psychological needs of the people who live in them.

PERRC faculty not only directly impact the current workforce, but they also train future preparedness researchers and practitioners (Personal communication, Ruth Berkelman, MD, Emory University Rollins School of Public Health, January 2014). The knowledge and experience generated at the centers offer students models of translational research. Additionally, by engaging students in projects and research, they can develop their skills and be better prepared to work in the field.

FUTURE DIRECTION

Despite significant progress in recent years, more work needs to be done to ensure that the population is adequately prepared and to improve the capability of communities to respond to and recover from emergencies. Several high-level reports have homed in on similar recommendations. For example, in a 2011 article, Dr. Ali Khan, director of CDC’s OPHPR, highlighted the need to strengthen resiliency among communities and individuals; to better integrate public health, medical services, and the private domain; and to increase efforts to support the needs of at-risk populations.

The Pandemic and All-Hazards Preparedness Reauthorization Act, enacted in 2013, echoes many of those ideas. The law outlines new PHP objectives for the U.S. Department of Health and Human Services and other federal agencies, including improved resiliency of communities and increased attention to at-risk populations. Similarly, the 2013 National Preparedness Report, published by the Department of Homeland Security as a requirement of the Presidential Policy Directive 8: National Preparedness, suggests that infrastructure resiliency and improving integration between public and private sectors are crucial areas for improvement.

The priorities highlighted in these reports may not only generate new programs in the PHP field, but also may signify where funding could be allocated. Academics at CEPH-accredited schools and programs of public health will continue to influence and respond to the national preparedness agenda through their work on public health preparedness projects and activities. Their expertise, partnerships, and resources can help address newly designated priorities and further develop federal, state, local, and tribal public health capabilities so that they can prepare for, respond to, and recover from an emergency.

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REFERENCES